

## 2 Satellites From Ft. Monmouth Go into Smithsonian Institution

FT. MONMOUTH—Two pioneering Ft. Monmouth satellites, Score and Courier, today joined the "Spirit of St. Louis" in Washington's Smithsonian Institution. Score and Courier were the

world's first active communication satellites. Both were developed at Ft. Monmouth by what is now the Electronics Command, a major element in the Army Materiel Command. The organization

was then the Army Signal Research and Development Laboratories.

### Staff Noted

Many of the men who worked on Score and Courier form the scientific and technical nucleus of the U.S. Army Satellite Communications Agency at Ft. Monmouth. SATCOM is project manager for the Army's portion, that is, the surface facilities, of the Department of Defense communication satellite program. SATCOM also provides most of the ground surface support for the National Aeronautics and Space Administration's SYCOM program.

Score, sent aloft from Cape Kennedy (then Canaveral) on Dec. 18, 1958, carried President Eisenhower's "Peace on Earth" Christmas message to the world. But it did much more. It proved that active-relay type satellites could receive both voice and teletypewriter signals from the ground and either relay them directly or store them on magnetic tape and carry them on to the next station, to be released on command.

It was the world's first communications satellite.

Courier, much more sophisticated and with a far greater capacity than Score, was launched Oct. 4, 1960. Courier could either relay directly or store and forward nearly 400,000 words — about three novels — in one four minute pass over a ground station.

Both satellites were major steps forward in the space age — Score (for signal communications by orbiting relay equipment) not only opened the satellite communications age, but was a major boost for 1958's U.S. prestige around the world.

### Score Helped

Score upped the U.S. score to four successful satellites to the Soviet Union's three, and by transmitting intelligible messages it proved to the general public that artificial satellites were something more than vehicle launched to orbit the earth for more or less vague scientific purposes.

Furthermore, Score was the first U.S. satellite visible to the naked eye under proper conditions.

### Secret Kept

Only 88 men in the nation, among them the group of engineers, technicians and scientists from the Ft. Monmouth Laboratories, knew about Score and its objectives.

Score was largely designed and built at the laboratories, but major components were made by a number of contractors.

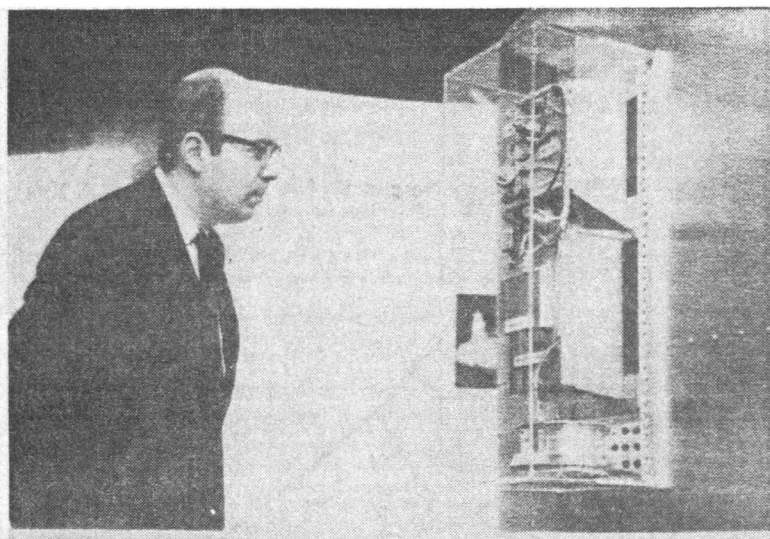
Radio Corporation of America, for example, made the transmitters and receivers.

Score remained in orbit and active for 34 days before it burned up in the atmosphere.

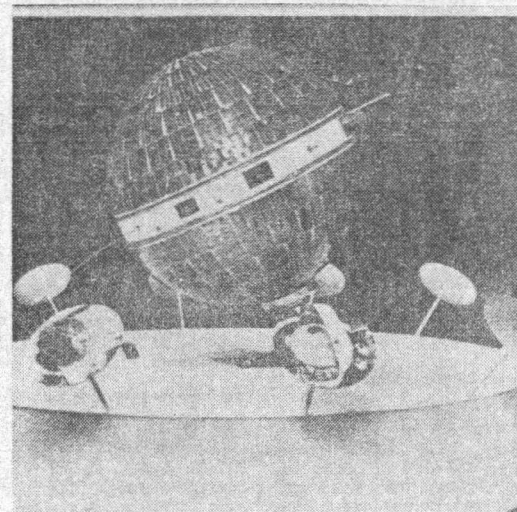
While Score was a major achievement, it was as primitive compared to Courier as Courier is to the Syncom satellite which maintains its position over one section of the earth.

### Voice Relayed

The 500-pound Courier was a complete satellite. The electronics package — an exact duplicate of the backup satellite being presented to the Smithsonian, was a complete space relay for voice and teletypewriter messages and facsimile — that is, it could and did relay photographs as other



Elliot N. Sivowitch, division of electricity, Smithsonian Institution, inspects Score satellite display. (UPI)



This is the Courier satellite display.

## SATELLITES

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The "bird" itself was built by Philco Corp., a subsidiary of the Ford Motor Corp., under the technical supervision of the Ft. Monmouth Laboratories. Its tremendous capacity was achieved by sophisticated ground equipment.

The ground equipment was built by International Telephone and Telegraph Corp., Nutley. Two antennas, one erected at Ft. Monmouth and the other in Puerto Rico, were built by Radiation Inc., of Melbourne, Fla. All work was under the technical supervision of the Army Electronics Laboratories.

Courier, which is still circling the earth, although it is non-operative, was launched by a Thor-Able-Star missile and achieved near-perfect orbit.

It operated successfully for 17 days, relaying millions of words both teletypewriter and voice, between Ft. Monmouth and Puerto Rico. It also relayed the first photograph ever sent into space and returned to earth, with the facsimile-type transmission being made during one four-minute pass over the Ft. Monmouth station.

### News Sent

Courier also relayed thousands of words of news copy for the nation's newspapers, wire services and technical publications, all of which were printed under the line "Via Courier Satellite."

A further sidelight on its efficient operation was the conversations between the technical crews at Ft. Monmouth and Puerto Rico. When normal land and radio lines for telephonic communication between the two points were clogged, messages and conversations were relayed in both directions by Courier with the greatest clarity.

Today's artificial communications satellites, such as Telstar and Relay, have much greater bandwidths than Courier and can therefore relay not only messages but television. And Syncom, doing a lazy figure 8 out in space over one spot of the earth is not limited in operating time by an orbit.

But Courier, and its primitive predecessor, Score, were the first vehicles to prove the immense possibilities of satellite relay of communications of all types. These Army research and development projects — the first active-relay communications satellites — opened a

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